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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,143	01/31/2002	Mihoko Shimano	P21968	5996
7055	7590	07/14/2004	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			ALI, MOHAMMAD	
			ART UNIT	PAPER NUMBER
			2177	

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/059,143	<b>Applicant(s)</b> SHIMANO ET AL.	
	<b>Examiner</b> Mohammad Ali	<b>Art Unit</b> 2177	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 January 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4-30-02</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. This communication is in response to the application filed on January 31, 2002.

The application has been examined. Claims 1-16 are pending in this Office Action.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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3. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robert G. Vivona ('Vivona' hereinafter), USP 5,960,407 in view of Pitkow et al. ('Pitkow' hereinafter), US 2002/0016786.

With respect to claim 1,

Vivona discloses a data classifying apparatus (see col. 9, lines 20-22) comprising:

a class constructing section that classifies model data groups each comprised of a plurality of items of model data according to predetermined item, and thereby classifies the model data groups into classes each having a smaller distribution than a category that an application requires (see col. 9, lines 20-28, Vivona);

a representative value calculating section that calculates a representative value of each class using data of respective one of the model data groups that is classified into the class (see col. 13, lines 22-28, Fig. 1, Vivona);

a class determining section that compares input data input from an outside with the representative value, and that determines a class with the representative value having a highest degree of similarity with the input data (see col. 11, lines 52-58, Fig. 1 Vivona); and

a category determining section that obtains the category to which the input data belongs using the determined class (see col. 9, lines 20-28, Vivona).

Vivona does not explicitly indicate the claimed model data groups.

Pitkow discloses claimed model data groups (a user's choice of particular bookmarks and the categories to which those bookmarks might be assigned will

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be understood to represent the user's hierarchical interest model and the user's interest model represents a subset to the global hierarchical model defining the Web, see Paragraph 0122, Pg. 11, Pitkow).

It would have been obvious to one ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the model data groups of Pitkow's teaching would have allowed Vivona's system to enhance searching recommended documents in a collection through the use of bookmarks shared among a community of users, as suggested by Pitkow at paragraph 0002, Pg. 1.

As to claim 2,

Vivona teaches wherein the each class has the distribution that does not belong to a plurality of categories (see col. 9, lines 20-28, Table 1, Vivona).

As to claim 3,

Vivona teaches a matrix calculating section that calculates a characteristic extraction matrix that transforms a coordinate system so as to clarify characteristics of the each class (see col. 15, lines 25-27 et seq, Vivona),

wherein the category determining section compares the input data with the representative value transformed by the characteristic extraction matrix and thereby determines the class with the representative value having the highest degree of similarity with the input data (see col. 15, lines 25-27 and col. 11, lines 52-58, Vivona).

As to claim 4,

Vivona teaches wherein the class constructing section classifies the model data groups into the classes so as to minimize variances within the classes (see col. 15, lines 20-27 et seq, Vivona).

As to claim 5,

Vivona teaches wherein the data classifying apparatus handles as the model data a model pattern vector expressed in one dimensional vector representative of pixel values of part of data extracted from the model data, while handling as the input data an input pattern vector expressed in one dimensional vector representative of pixel values of part of data extracted from the input data (see col. 15, lines 20-27 et seq, Vivona).

As to claim 6,

Vivona teaches wherein when the category determining section determines a plurality of categories to which the input data belongs, the class constructing section adds a new item to the predetermined item, classifies the classes according to the new item, and thereby prevents a distribution of any of the classes from belonging to the plurality of categories (see col. 9, lines 20-28, Vivona).

As to claim 7,

Vivona teaches wherein the matrix calculating section calculates the characteristic extraction matrix that transforms the coordinate system so as to decrease a variance of each of the model data groups within respective one of the classes (see col. 15, lines 20-27 et seq, Vivona).

As to claim 8,

Vivona teaches wherein the matrix calculating section transforms the characteristic extraction matrix that transforms the coordinate system so as to increase a variance of the classes between the classes (see col. 15, lines 20-27 et seq, Vivona).

As to claim 9,

Vivona teaches wherein the matrix calculating section calculates the characteristic extraction matrix that transforms the coordinate system so as to decrease a variance of each of the model data groups within respective one of the classes, while increasing a variance of the classes between the classes (see col. 15, lines 20-27 et seq, Vivona).

As to claim 10,

Vivona teaches wherein the matrix calculating section calculates the characteristic extraction matrix that transforms the coordinate system so as to maximize a variance ratio that is a ratio of a between-class covariance matrix of the classes to a within-class covariance matrix of the model data groups contained in the classes (see col. 15, lines 20-27 et seq, Vivona).

As to claim 11,

Vivona teaches wherein the matrix calculating section calculates the characteristic extraction matrix that transforms the coordinate system so as to a maximize a variance ratio that is a ratio of a covariance matrix of the model data groups to a within-class covariance matrix of the model data groups contained in the classes (see col. 15, lines 20-27 et seq, Vivona).

As to claim 12,

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Vivona teaches wherein the class constructing section transforms the coordinate system into a coordinate system such that covariance matrices of the model data groups are unit matrices (see col. 14, lines 66-67 and col. 15, lines 20-27 et seq, Vivona).

As to claim 13,

Vivona teaches wherein with a type of material used as the category, the model data is classified according to the type, and the category to which the input data is determined, and thereby the type of the input data is determined (see col. 9, lines 20-28, Vivona).

As to claim 14,

Vivona teaches wherein with a distance to a material used as the category, the model data is classified according to the distance to the material, and the category to which the input data is determined, and thereby the distance in an actual space is determined (see col. 9, lines 20-28 et seq, Vivona).


Claims 15 and 16 have the same subject matter as of claim 1 and essentially rejected for the same reasons as discussed above.



**Contact Information**

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad Ali whose telephone number is (703) 605-4356. The examiner can normally be reached on Monday to Thursday from 7:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (703) 305-9790 or Customer Service (703) 306-5631. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for any communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9600.

  
Mohammad Ali

Patent Examiner

AU 2177

MA

July 12, 2004